REMARKS:

Applicant appreciates the time and care the examiner has taken in examining the application.

Amendments. In the amendment above, the objected-to clause "especially oxidic slag, glass or thermoplastic melts" in the base claim 10 has been deleted. This clause has been moved to new claims 37-39 depending from the base claim. Claim 10 has been further amended to incorporate limitations from claim 11, which has been cancelled. Accordingly, claims depending from claim 11 have been cancelled. Claims 16-36 have been cancelled in view of the election below.

Election. In response to the restriction requirement, Applicant elects the Group I claims, namely claims 10-15, without traverse.

Response to Rejections. Applicant requests reconsideration of the rejections of the claims, and states the following in support.

The Section 112, second paragraph rejection has been obviated by amendment.

As to the Section 103(a) rejections, it is noted that all three of the rejections are founded upon the combination of Edlinger, PCT Publication No. WO 02/04154 as translated in U.S. Pub. No. 2002-0134198, in view of Barnard, U.S. Pat. No. 3,063,093, with additional references being cited with respect to claims 12-15. With respect to the first rejection (claims 10-11 over Edlinger (translated in '198) and Barnard, it is respectfully submitted that it would not have been obvious

to one of ordinary skill in the art to combine the two references with each other in order to obtain a process as set forth in amended claim 10.

Applicant is aware that a simple use of hot combustion gases from an antechamber cannot be a patentable feature in this field, which is why the focus of this invention is in the specific technique by which the hot combustion gases from the antechamber are mixed with the propellant stream, which stream is ejected together with the melts into a granulating chamber. Mixing the hot combustion gases from the antechamber with the propellant stream results in a considerable temperature increase of the propellant stream, and thus, in an increased gas viscosity of the propellant stream. According to amended claim 10, the hot combustion gases are ejected together with the propellant stream as a core of the tube-shaped melt stream into the granulation chamber, whereby high shearing forces are exerted on the melt stream due to the increased gas velocity of the propellant stream. Such high shearing forces result in a better dispersion of the melt, and result in much smaller granulated particles. Further, the increased propellant gas temperature, due to the addition of the hot combustion gases, results in the heat of the propellant gas being transferred to the melt stream once the propellant gas comes into contact with the propellant stream, thus lowering the viscosity of the melt stream and enabling a dispersion of the melt into finer particles.

From the matters stated above, it follows that it is a defining feature of the invention as set forth in amended claim 10 that the hot combustion gases are added to the propellant gases so as to be ejected together as a core of a tube-shape melt stream into the granulating chamber. Only by ejecting the propellant gas and the hot combustion gas together is it possible to reach the effect of high shearing forces exerted by the propellant melt onto the melt stream (due to the increased gas viscosity) and the effect of decreasing the viscosity of the melt stream. At the same time, by using hot combustion gases that are suctioned from the antechamber, it is possible to efficiently use the heat of the antechamber for heating the propellant stream.

Keeping the matters above in mind, it is clear that a combination of Edlinger '198 and Barnard does not yield the process of amended claim 10 herein. This is due to the completely different use of the combustion gases from the antechamber as disclosed by Barnard. In the process according to Barnard, a pump is required, which is arranged in a separate conduit in order to transport the combustion gases to their point of deployment. The use of the pump employs a completely different principle of transportation of fluid than that employed in the process of claim 10. In the process according to claim 10, the ejection of the melt into the granulating chamber is effected together with the propellant gas mixed with hot combustion gases, which propellant gas is provided to the system via an inner tube. Due to the propellant gas flowing at high velocity, the hot combustion gases from the antechamber are sucked from the antechamber by Bernoulli's principle, similarly to what happens in a water jet pump.

By this technique, the gases from the antechamber are delivered to the emerging flux of the melt directly at the output of the tundish, whereas in contrast, according to the teaching of Barnard, the gases are supplied to the material at a position that can be anywhere in the process.

This results in an important difference, because the hot combustion gases in the process according to Barnard serve only heating purposes and do not substantially influence the dynamic characteristics of the flux of the material. Moreover, the completely different technique and purpose become apparent by the arrangement of a separate conduit for the supply of cooling medium to the hot gases from the antechamber in the process of Barnard.

It is noted that, regarding Edlinger '198, the examiner states, "Edlinger also discloses the mixing of hot combustion gases with the propellant stream ([0018], fig. 1)". Applicant respectfully disagrees with this interpretation of the Edlinger '198 disclosure. Paragraph 18 of the Edlinger '198 reference says that additional material may be sucked into the annular space via a duct, said additional material comprising, above all, reactive gases like CO, H_2, N_2, 0_2, or, if a partial oxidation of the metal particles is sought, also H_20 vapor. This material is introduced via the duct 24 into the annular space 23, from which it is aspirated via the hot gas stream (which

is equivalent to the propellant stream of the instant invention) and brought into contact with the metal melt. It follows that Edlinger '198 disclosed the addition of reactive gases to the propellant stream, but not the addition of hot combustion gases. Of course, hot combustion gases are not the same as reactive gases. To the contrary, combustion gases are not reactive at all. Further, the gases introduced according to Edlinger '198 are not described as being hot, so that such gases are not used to increase the propellant stream temperature and the melt stream temperature.

There is no indication in Edlinger '198 to add any hot gases to the propellant stream. The reason is that the person skilled in the art would find that the propellant gas used by Edlinger '198 has a temperature of between 250 and 1300 °C, which does not necessarily need further temperature increase. Further, one skilled in the art would find that the combustion gases disclosed by Barnard serve a completely different aim when compared to the instant invention. In Barnard, the combustion gases simply are used to heat the glass melt ribbons; there is no indication to mix combustion gases with any propellant stream. Barnard does not disclose any propellant stream.

The rejection of claims 12-13 under 35 U.S.C. § 103(a) is respectfully traversed because the combination of Edlinger '198 and Barnard, for all the reasons set forth above, is insufficient to yield the features of amended claim 10. Further, this combination, to which a further reference, Edlinger '223, is added, fails to render obvious the combination of features set forth in amended claims 12-13. A device according to Edlinger '223 does not disclose or suggest the mixture of hot combustion gases from an antechamber with a flux of melts, and refers hence to another distinct process.

With regard to the rejection of claims 14 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Edlinger '198 in view of Barnard '093 and in additional view of Searight, U.S. Pat. No. 3,138,444, the rejection is traversed for the reasons set forth above with respect to base claim 10, which show that Edlinger '198 and Barnard cannot serve as a basis for combination

with a further reference. In addition, Searight teaches something completely different from the stressing of a shroud on its outside according to the present invention. As pointed out in col. 4, lines 4-9 of Searight, the stream of hot gases according to the Searight patent for stressing the shroud on its outside serves for maintaining the already-atomized glass at an elevated temperature, in order to allow the atomized glass to become completely spherulized, as well as to provide additional turbulence within the gases in the furnace so as to assure that all the fibers of glass are broken up into small rods, which then form into small glass beads. In contrast, in the present invention the stressing of the shroud serves for the stabilization of an essentially cylindrical structure of the shroud, as is clearly set forth in the claims. Clearly, the two processes in question are fundamentally different. Moreover, in contrast to the requirements of the claims herein, Searight does not disclose an annular nozzle, but rather, employs a plurality of conventional nozzles in order to produce the gas stream.

For all these reasons, the rejections are respectfully traversed, and reconsideration and withdrawal of the rejections with respect to the amended claims is requested. It is respectfully submitted that the application is in condition for prompt allowance and that all of the objections, rejections and requirements raised in the Office action have been met. Early, favorable treatment of this application is requested.

The examiner is encouraged to telephone the undersigned with any questions or comments so that efforts may be made to resolve any remaining issues.

The Commissioner is hereby authorized to charge any required fees, or credit any overpayment, associated with this communication, including fees for any necessary extension of time under 37 CFR §1.136(a) for filling this communication, which extension is hereby requested, to our Deposit Account No. 50-0305 of Chapman and Cutler LLP.

Respectfully submitted,

By: _____
Robert J Schneider, Reg. No. 27,383

Date: September 22, 2006
Attorneys for Applicant(s):
Robert J. Schneider
CHAPMAN AND CUTLER LLP
111 West Monroe Street, 16th Floor
Chicago, Illinois 60603-4080
Telephone: 312-845-3919

CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 C.F.R. § 1.8

Attorney Docket Number:	1714880
App. Serial No.:	10/648,959
Date of Facsimile Transmission:	September 22, 2006
Transmitted to Facsimile No.:	1-571-273-8300

I hereby certify that the attached correspondence, namely: Response to Office Action, was transmitted by facsimile on the date listed above, to the U.S. Patent Office at the facsimile number listed above, under 37 C.F.R. § 1.8.

Signature: Brenda Walton
Typed Name of Person Signing this Certificate: Brenda Walton

Date of Signature: September 22, 2006